Patent Application of

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For

TITLE: PLASTIC WOOD DUCK HOUSE WITH WETLANDS POLE

CROSS REFERENCE TO RELATED APPLICATIONS

UNITED STATES PATENTS

4,889,075	12/1989	Byrns	119/329
5,746,156	02/1996	Petrides	119/329
4,768,466	10/1986	Burns	
3,177,849	03/1962	Isenberg	
5,941,194	04/1998	Potente	
5,878,537	08/1997	Flischel	
5,355,835	12/1993	Freed	

OTHER PUBLICATIONS

Ryan, "Breeding Biology of Wood Ducks using natural cavities in Southern Illinois", 1998, pages 112 through 123, The Wildlife Society

Manlove, "Patterns of nest attendance in female Wood Ducks", 2000, pages 286 through 291, The Cooper Ornithological Society

Bradley and Zicus, contributors to "First Flight" with description of Tom Tubbs nesting box through the Minnesota Wildfowl Association

BACKGROUND – FIELD OF INVENTION

This invention relates to a plastic, cylindrically shaped duck nesting house, especially for Wood Ducks and other migratory waterfowl. The Wood Duck house consists of a deep cavity canister for the nest, a climbing grid for the ducklings to egress the nest upon hatching and a tight fitting lid. The Wood Duck house is mounted atop a plastic sealed pole that can be planted in a wetland area plus two separate pole segments, which fit inside one another for planting in a shoreline area.

BACKGROUND – DESCRIPTION OF PRIOR ART

The Wood Duck is a migratory waterfowl that spends the winter in warm southern waters and flies north in the spring. The Wood Duck species was thought by many to be on its way to extinction in the early part of the twentieth century. Conservationists made every effort to provide natural habitat for the Wood Duck to encourage the population to grow. The Wood Duck has traditionally laid its eggs in a cavity nest in a hollowed out tree trunk, usually sycamores, cottonwood, oak and American beech. However, predators, most notably, raccoons, mink, weasels and opossum were able to decimate a nest quite easily by simply climbing the tree trunk. Squirrels are known to molest a nest and take up residence there. Even though conservationists tried to ensure natural habitat for the Wood Duck to nest, many old-growth tree trunks were destroyed, which further diminished the population of Wood Ducks.

Studies (Manlove and Hepp, 1999) have shown that nests that are close to water have adequate survival rates. Bradley and Zicus recommend that a Wood Duck nest should be no more than 30 to 100 feet from water. Nesting sites that are closer to water, or actually on the water, had higher counts of eggs and greater numbers of hatched ducklings. The ducklings exit the nest and jump to the ground within one day of hatching from the eggs. The hen calls to the new hatchlings and they follow her sound to the wetland area. The passage from the nest in a hollowed out tree trunk, to the ground, and then on foot to the water, can be the most treacherous for the new duckling. Another study (Ryan, Kawula and Gates, 1998) observed that 33%, or more, of the brood can be lost to predators between the time the ducklings leave the nest and join the mother in a wetland area. The orientation of the entrance of the nesting cavity to the closest wetland did not appear to make a difference to the success of the nest.

The breeding season for Wood Ducks is from January to July depending on the area of the United States to which they migrate. The incubation period is about 31 to 35 days with most eggs hatching by the 32nd day. The female Wood Duck must sit on the eggs for most of this entire period to maintain a constant temperature for the developing eggs. The nesting female has exercise requirements that will take her away from the nest for more than an hour each day. This includes foraging time to maintain her own healthy body condition. The Wood Duck feeds on plant life, seeds, roots and weeds in shallow water. The female's time away from the nest increases the exposure of the nest to predators. An average nest size is 9 or 10 eggs. If a second female lays her eggs in an existing nest, the total eggs laid in that nest can be more than 14.

The Tom Tubbs nesting box is for attachment to a tree trunk. U.S. patent 4,889,075 by Byrns describes a plastic duck house that can be attached to a tree trunk or a pole. U.S patent 5,746,156 by Petrides is for a convertible bird box made of wood. U.S. patent 4,768,467 by Burns describes a nest box of resilient material that appears to also suggest the need for an attachment to a tree trunk.

There are several disadvantages to all current duck nesting boxes.

(1) One of the main disadvantages of all current cavity type nesting boxes is that they are to be attached to a tree trunk, which increases the risk from predators. Raccoons and other predators can easily ascend a tree trunk and use the trunk as leverage to reach inside and decimate the nest of its eggs. U.S. patent 5,941,194 by Potente describes a cavity nest entrance shield to make it more difficult for a predator to reach into a nest to extract the eggs. However, this shield would make it very difficult for a Wood Duck to fly directly into the entrance with the shield covering the opening.

(2) A second disadvantage of most current nesting boxes is that they are made of wood. Observations have shown that nesting boxes made of wood may increase the temperature inside the nesting compartment and destroy the eggs before hatching.

(3) The rough features and outer corners of wood nesting boxes also allow grasping places for predators to use as leverage to reach inside and seize the eggs in the nest.

(4) The contours of a box also take the full force of the wind and can be toppled in strong winds.

(5) Another disadvantage is that wood nesting boxes and their metal parts will rot and rust with the weather conditions and will need to be repaired or replaced to ensure a productive nest each season.

SUMMARY

In accordance with the present invention, a Wood Duck house made with polymerized vinyl compound (PVC) parts is all white and consists of a round, cylindrical canister **10**, a tight fitting removable lid **11**with handle **12** and an inside duckling climbing ladder **14**. The material used to make the invention reflects the heat from the sun. The material does not absorb heat and therefore does not interfere with the female duck's ability to regulate the temperature of the eggs in the nest. The canister **10** is of sufficient depth to simulate a cavity nest site in a hollowed out old-growth tree trunk. Nesting materials, such as wood shavings or saw dust, can be placed in the bottom of the canister **10** and removed at the end of each nesting season when the duck house is easily cleaned. There are several small drainage holes in the bottom of the canister **10**, under the nesting area, to allow for drainage of rain that may come in through the entrance hole **13**. This feature also allows for additional ventilation of the nesting cavity. This duck house has an entrance and egress hole **13** that is of sufficient height from the bottom of the canister **10** to effectively deter predators from being able to reach inside the container **10** to extract eggs or hatchlings. The surface of this duck house is smooth and round, which makes it extremely difficult for any predator to find a place to grasp for leverage. The entrance hole **13** is of sufficient height and width to allow a duck in flight to easily alight to the inside of this cavity nest. The tight fitting lid **11** ensures that predators cannot remove the lid **11**. The handle **12** atop the lid **11** makes it easy to open the canister **10** for cleaning at the end of the season.

The invention has an inside climbing ladder **14** made of a nylon mesh grid which is secured to the bottom of the canister **10**, under the nest, with a nylon nut and bolt **16**. The mesh grid ladder **14** curves up the inside wall of the canister **10** and rises to the egress hole **13**. The mesh grid ladder **14** is slightly wider in width than the width of the egress hole **13**. The width of the mesh grid ladder **14** allows sufficient space for the hatchling to make his escape from the nest. Just under the egress hole **13**, the mesh grid ladder **14** is secured to the inside wall of the canister **10** by means of a nylon band **15** across the width of the mesh grid ladder **14**. The nylon band **15** is fastened to and through the mesh grid **14** to the wall with a plurality of nylon nuts and bolts **16**. This band **15** secures and stabilizes the mesh grid ladder **14** and also forms a staging prop to assist the duckling in exiting the duck house. The open spaces of the mesh grid ladder **14** are of such size as to easily allow the webbed feet of a new hatchling to climb the height of the canister **10** to the egress hole **13** without difficulty.

The Wood Duck house can be mounted atop a sealed wetland pole **22** which resists cracking in frozen ponds as no water can seep into the inner chamber of the pole. The wetland pole **22** can be planted in a frozen pond by breaking a hole in the ice and planting the pole **22** through that opening into the soft mud below. The wetland pole **22** is topped with a water closet fitting **20** and attached to the underside of the canister **10** with a plurality of threaded nylon fasteners **21**. This unique sealed wetland pole **22** allows the hatchlings to jump from the nesting cavity directly to a soft landing on the water below. This greatly diminishes the risk from predators on the land and enhances the chance for success of the entire brood.

The Wood Duck house can also be mounted atop a segmented pole for a shoreline area. The top of the top pole segment **30** is attached to the underside of the duck house canister **10** in the same manner as the wetland pole **22**. The bottom of the top pole segment **30** is fitted with several stabilizing collars **31** that prevent movement when the top pole segment **30** is fitted inside the bottom pole segment **32** of slightly larger diameter. The bottom pole segment **32** is sealed at its bottom end with an end cap **23** and is easily planted in the ground away from the water's edge. The pole and duck house should be planted at least fifteen feet away from any tree to deter squirrels from jumping from a tree branch to the top of the duck house. At the end of the nesting season, the duck house canister **10** and top pole segment **30** can be removed with the bottom pole segment **32** capped with an end cap **23** and remaining in place in the ground until the next nesting season.

OBJECTS AND ADVANTAGES

The objects and advantages of the present invention are:

(1) A duck house that can be erected away from a tree trunk will be a great deterrent to a Wood Duck's natural predators. This invention planted in a wetland area provides additional safety for the new ducklings. A new duckling can jump from the nesting compartment directly to the water below. This allows the hen to exercise immediate assistance to her brood. The new hatchlings have immediate access to their natural food supply in the water.

(2) A white plastic duck house will reflect the heat from the sun. This will allow the Wood Duck herself to regulate the temperature of the eggs in the nest. A plastic duck house will not absorb heat from the sun and will not raise the temperature in the nesting compartment to levels that will destroy the eggs.

(3) The round features of this duck house and the smooth material make it exceedingly difficult for a predator to grasp any angle to use as leverage. The exterior is not rough and there are no corners that could provide grasping places or leverage for a predator to gain entrance to the eggs in the nest.

(4) The round contours of the present invention will allow wind to glide around it easily. There are no flat surfaces that tend to blunt the wind. The round design of the present invention will keep it stable in strong winds.

(5) The material used in the present invention will not rot or rust. There are no wood or metal parts that require repair or replacement.